Status of the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1 - 18 (cancelled).

19. (previously presented) A method, comprising:

using first and second probes each having a respective elongated nozzle;

scanning the first probe over a reference surface to produce successive reference values, such that a size of an opening of the elongated nozzle allows for an entire area of the reference surface adjacent the first probe during the scanning to be measured by substantially eliminating low sensitivity areas;

scanning the second probe over a measured surface to produce successive measured values, such that a size of an opening of the elongated nozzle allows for an entire area of the measured surface adjacent the second probe during the scanning to be measured by substantially eliminating low sensitivity areas; and

determining a topography of the measured surface based on a difference between respective ones of the successive measured values and respective ones of the successive reference values.

20. (Previously Presented) The method of claim 19, further comprising:

producing a uniform sensitivity footprint based on the shape and size of the opening of the elongated nozzle.

21. (previously presented) The method of claim 19, further comprising:

using the respective elongated nozzles having a width to length ratio of about 2:1.

22. (previously presented) The method of claim 19, further comprising:

using the respective elongated nozzles having a width to length ratio of about 10:1.

23. (previously presented) The method of claim 19, further comprising:

using the respective elongated nozzles having a width to length ratio of about 20:1.

24. (previously presented) The method of claim 19, further comprising:

using the respective elongated nozzles having a width to length ratio of between about 2:1 to about 20:1.

25. (previously presented) The method of claim 19, further comprising:

using a flat metal plate on or adjacent a substrate stage that holds a substrate as the reference surface; and

using the substrate stage or the substrate as the measured surface.

26-38 (Cancelled)

39. (new) A system, comprising:

means for directing a gas stream into a reference channel and a measurement channel;

means for evenly restricting gas flow through the reference channel and the measurement channel;

probes located at adjacent ends of the reference channel and the measurement channel and having an elongated nozzle orifice; and

means for sensing a mass of gas flow between the reference channel and the measurement channel.

40. (new) The system of claim 39, further comprising:

a reference surface positioned a reference standoff from the reference probe, wherein a gas stream from the reference probe impinges on the reference surface after traveling across the reference standoff; and

a measurement surface positioned a measurement standoff from the measurement probe, wherein a gas stream from the measurement probe impinges on the measurement surface after traveling across the measurement standoff,

wherein the means for sensing senses a difference between the reference standoff and the measurement standoff.

41. (new) The system of claim 39, further comprising:

means for controlling a mass flow rate of the gas stream positioned before the means for directing.

42. (new) The system of claim 41, further comprising:

means for reducing gas turbulence positioned after the means for controlling.

43. (new) The system of claim 39, wherein the nozzle orifice has a height H which is larger than a width W.

44. (new) The system of claim 39, wherein:

the nozzle orifice has a height H and a width W; and

a ratio of H to W is between about 2:1 to about 20:1.

45. (new) The system of claim 39, wherein:

the nozzle orifice has a height H and a width W; and

a ratio of H to W is about 10:1.

46. (new) A gas gauge proximity sensor that is provided with a gas supply during operation, comprising:

a dividing portion that divides the supplied gas into a reference channel and a measurement channel;

flow restrictors placed in the reference channel and measurement channel; probes respectively coupled to adjacent ends of the reference channel and

the measurement channel, the probes including elongated nozzle orifices; and

a mass flow sensor coupled between the reference and measurement channels that senses the mass of gas flow therebetween.

47. (new) The gas gauge proximity sensor of claim 46, further comprising:

a reference surface positioned a reference standoff from the reference probe, wherein a gas stream from the reference probe impinges on the reference surface after traveling across the reference standoff; and

a measurement surface positioned a measurement standoff from the measurement probe, wherein a gas stream from the measurement probe impinges on the measurement surface after traveling across the measurement standoff,

wherein the mass flow sensor senses a difference between the reference standoff and the measurement standoff.

48. (new) The system of claim 46, further comprising:

a mass flow rate controller positioned before the dividing portion.

49. (new) The system of claim 48, further comprising:

a snubber located after the mass flow controller to reduce gas turbulence.

50. (new) The system of claim 46, wherein the nozzle orifice has a height H which is larger than a width W.

51. (new) The system of claim 46, wherein:

the nozzle orifice has a height H and a width W; and

a ratio of H to W is between about 2:1 to about 20:1.

52. (new) The system of claim 46, wherein:

the nozzle orifice has a height H and a width W; and

a ratio of H to W is about 10:1.